

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>1054MUM2003</b>	<b>FOR FURTHER ACTION</b> see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. <b>PCT/IB2004/051922</b>	International filing date (day/month/year) <b>30/09/2004</b>	(Earliest) Priority Date (day/month/year) <b>08/10/2003</b>
Applicant  <b>NICHOLAS PIRAMAL INDIA LIMITED</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 7 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

## 1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. ☐ Certain claims were found unsearchable (See Box II).

3. ☒ Unity of invention is lacking (see Box III).

## 4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

## 5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

## 6. With regard to the drawings,

- a. the figure of the drawings to be published with the abstract is Figure No. \_\_\_\_\_

☐ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

- b. ☐ none of the figures is to be published with the abstract.

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB2004/051922

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K31/4035 C07D209/46 A61P7/02 C07D401/06 C07D413/04

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BEILSTEIN Data, CHEM ABS Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 655 439 A (ELI LILLY AND COMPANY) 31 May 1995 (1995-05-31) page 1, lines 23-26; claims 1-4 page 17, line 38 - page 21, line 10 page 27, line 1 - page 30, line 40 example 9	1-20
P,X	EP 1 391 451 A (EISAI CO., LTD) 25 February 2004 (2004-02-25) paragraphs [3364], [3365]; claims 1-32 examples	1,2,4, 10-20
X	& WO 02/085855 A (EISAI CO., LTD; SUZUKI, SHUICHI; KOTAKE, MAKOTO; MIYAMOTO, MITSUAKI; K) 31 October 2002 (2002-10-31) ----- -/--	1,2,4, 10-20

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&amp;" document member of the same patent family

Date of the actual completion of the international search

2 March 2005

Date of mailing of the international search report

17.05.05

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Seymour, L

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 540 334 A (MERCK & CO. INC) 5 May 1993 (1993-05-05) cited in the application claims 1,4,13-15 -----	1,2, 10-13
X	US 3 997 572 A (CUSIC ET AL) 14 December 1976 (1976-12-14) column 1, line 15 - column 2, line 13 column 2, line 67 - column 3, line 7 examples 12,15 -----	1,2, 10-13
X	DD 66 175 A (TONJES H) 5 April 1969 (1969-04-05) column 1, line 15 - line 17 formula I; examples 8, 14 -----	1,2, 10-13
X	GB 989 917 A (VEB ARZNEIMITTELWERK DRESDEN) 22 April 1965 (1965-04-22) page 1, lines 14,15; claims 1,13 -----	1,2, 10-13
X	NEW J S ET AL: "Buspirone analogues. 2. Structure-activity relationships of aromatic imide derivatives" JOURNAL OF MEDICINAL CHEMISTRY, AMERICAN CHEMICAL SOCIETY. WASHINGTON, US, vol. 29, no. 8, 1986, pages 1476-1482, XP002939655 ISSN: 0022-2623 tables I,II -----	1,2, 10-13
X	SUGIMOTO H ET AL: "Synthesis and structure-activity relationships of acetylcholinesterase inhibitors: 1-benzyl-4-(2-phthalimidoethyl)piperidine and related derivatives" JOURNAL OF MEDICINAL CHEMISTRY., vol. 35, no. 24, 1992, pages 4542-4548, XP002319779 USAMERICAN CHEMICAL SOCIETY. WASHINGTON. table II -----	1,2, 10-13

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/IB2004/051922

## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
  
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
  
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
  
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-20

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-20

Compounds of formula I and corresponding syntheses, compositions and uses thereof  
---

2. claim: 21

Alternative process for introducing a keto substituent at the ortho position of phenols.  
---

3. claim: 22

Alternative process for introducing a keto substituent at the para position of phenols.  
---

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IB2004/051922

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0655439	A	31-05-1995	CA 2134192 A1 EP 0655439 A2 JP 7188165 A	13-05-1995 31-05-1995 25-07-1995
EP 1391451	A	25-02-2004	BR 0208985 A CA 2446924 A1 EP 1391451 A1 HU 0400467 A2 MX PA03009497 A NO 20034632 A US 2005004204 A1 CN 1503784 A CZ 20032824 A3 EP 1391456 A1 EP 1386912 A1 EP 1394152 A1 WO 02085850 A1 WO 02088092 A1 WO 02088094 A1 WO 02085855 A1 US 2004242627 A1 US 2004254376 A1 US 2005004197 A1	09-03-2004 31-10-2002 25-02-2004 28-02-2005 24-05-2004 19-12-2003 06-01-2005 09-06-2004 14-04-2004 25-02-2004 04-02-2004 03-03-2004 31-10-2002 07-11-2002 07-11-2002 31-10-2002 02-12-2004 16-12-2004 06-01-2005
WO 02085855	A	31-10-2002	BR 0208985 A CA 2446924 A1 CN 1503784 A CZ 20032824 A3 EP 1391456 A1 EP 1386912 A1 EP 1394152 A1 EP 1391451 A1 HU 0400467 A2 WO 02085850 A1 WO 02088092 A1 WO 02088094 A1 WO 02085855 A1 MX PA03009497 A NO 20034632 A US 2004242627 A1 US 2004254376 A1 US 2005004197 A1 US 2005004204 A1	09-03-2004 31-10-2002 09-06-2004 14-04-2004 25-02-2004 04-02-2004 03-03-2004 25-02-2004 28-02-2005 31-10-2002 07-11-2002 07-11-2002 31-10-2002 24-05-2004 19-12-2003 02-12-2004 16-12-2004 06-01-2005 06-01-2005
EP 0540334	A	05-05-1993	US 5272158 A CA 2081614 A1 DE 69207351 D1 EP 0540334 A1 JP 2090253 C JP 5262731 A JP 7116144 B US 5389631 A US 5416099 A	21-12-1993 30-04-1993 15-02-1996 05-05-1993 02-09-1996 12-10-1993 13-12-1995 14-02-1995 16-05-1995
US 3997572	A	14-12-1976	US 3917636 A BE 745334 A1 DE 2004562 A1 FR 2034517 A5	04-11-1975 03-08-1970 27-08-1970 11-12-1970

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IB2004/051922

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 3997572	A	GB 1253002 A	10-11-1971
		US 3642836 A	15-02-1972
		US 3770763 A	06-11-1973
		ZA 7000739 A	31-03-1971
DD 66175	A	NONE	
GB 989917	A	22-04-1965 FR 3397 M	

Best Available Copy